

*SPECIFICATION AMENDMENTS*

Replace the paragraph beginning at page 1, line 6 with:

The present invention relates to a cleaning composition for stripping and removing a resist film, resist residue, and other reaction residue ~~with~~ left by an etching gas (i.e., etching residue) that remain on a semiconductor substrate after dry etching in ~~a step of~~ forming a metal interconnection having copper as its main component, and a ~~manufacturing~~ manufacturing method of manufacturing a semiconductor device using the same.

Replace the paragraph beginning at page 1, line 13 with:

Generally, in a ~~manufacturing~~ process of manufacturing a highly integrated semiconductor elements, a resist film is first applied on an interconnection material such as a metal film which becomes an interconnection for electric conduction, and on an interlayer insulating film material which ensures insulation between interconnections. A desired resist pattern is formed by photolithography, and dry etching is conducted using the resist film as a mask, and then the remaining resist film is removed. To remove the resist film, it is common to perform wet treatment after plasma ashing, to strip and remove resist residue remaining on the interconnection material and the interlayer insulating material using a cleaning composition.

Replace the paragraph beginning at page 2, line 15 with:

Problems of the conventional cleaning composition and the ~~manufacturing~~ manufacturing method of manufacturing a semiconductor device using the same are now described with reference to Figs. 3A-3K.

Replace the paragraph beginning at page 3, line 14 with:

Next, referring to Fig. 3F, Low-k film 4 is dry etched, using resist film 5 as a mask, down to its intermediate position to form a trench 22. At this time, resist residue 6, being a ~~reactive~~ reaction product of the gas used for the dry etching, and the Low-k film, accumulates in via hole 21 and trench 22.

Replace the paragraph beginning at page 4, line 7 with:

Next, referring to Fig. 3K, copper is filled in via hole 21 and trench 22 by plating or the like. A second copper interconnection 10 is then formed by CMP (Chemical Mechanical Polishing). If the first copper interconnection 1 has been corroded by the conventional cleaning composition, however, the second copper interconnection 10 cannot ~~be filled in~~ fill via hole 21 completely. In such a case, junction resistance between the first copper interconnection 1 and the second copper interconnection 10 becomes high, or they may even be disconnected.

Replace the paragraph beginning at page 4, line 15 with:

An interval 11 between the interconnections has ~~been narrowly designed~~ become narrow with ~~advancement of~~ downsizing of the elements. If the conventional cleaning composition is used for the above-described process, modified layer 7 at the surface of the Low-k film as well as the Low-k film 4 itself would be etched to further narrow the interval 11 between the interconnections. This would cause degradation in characteristics, such as a decrease of driving operating speed of a semiconductor element due to increased electric ~~capacity~~ capacitance between the interconnections, or a defect such as a short-circuit between the interconnections. Further, with the conventional cleaning composition, ~~performance ensuring~~ complete removal of resist residue as well as corrosion control of both copper and the Low-k film ~~would~~ are not be obtained.